

**CLAIMS**

1. A chip card (10) characterized in that it comprises, in order to authenticate the person holding  
5 the card, a sensor for spectral information relating to the skin of the person holding the chip card between his thumb and index finger.
2. The chip card as claimed in claim 1, characterized  
10 in that the sensor comprises at least one light-emitting diode (12) and one photodiode (14).
3. The chip card as claimed in claim 2, characterized  
15 in that the light-emitting diodes and the photodiodes are mounted on a flexible substrate (50) comprising electrical interconnecting tracks (60) between the light-emitting diodes and the photodiodes on the one hand and the card chip on the other hand.
- 20 4. The chip card as claimed in claim 3, characterized in that the flexible substrate is inserted between two sheets of plastic material, a transparent window (75) being provided above the light-emitting diodes on the one hand and the photodiodes on the other hand.
- 25 5. The chip card as claimed in one of claims 2 to 4, characterized in that it comprises light-emitting diodes and photodiodes on either side of the card to perform spectral recognition on the two digits holding  
30 the card.
6. The chip card as claimed in one of claims 2 to 5, characterized in that at least one light-emitting diode emits in an absorption spectral band of blood.
- 35 7. The chip card as claimed in one of claims 2 to 6, characterized in that it furthermore comprises means of measuring the cardiac pulse and/or means of evaluating

the oxyhemoglobin rate, in order to enhance the authentication of the person.

8. The chip card as claimed in one of claims 2 to 7,  
5 characterized in that it comprises light-emitting diodes emitting at different wavelengths.

9. The chip card as claimed in one of claims 1 to 8,  
characterized in that it comprises at least one  
10 photodiode incorporated in the chip.

10. The chip card as claimed in one of claims 1 to 9,  
characterized in that the chip comprises electronic  
means of processing spectral information from the  
15 sensor, to allow authentication of the person holding the card.

11. The chip card as claimed in one of claims 1 to 10,  
characterized in that the chip comprises a memory  
20 containing stored biometric data relating to the card holder.

12. The chip card as claimed in one of claims 1 to 11,  
characterized in that it furthermore comprises means  
25 for detecting the holding of the card between the thumb and index finger to start the acquisition of spectral information by the sensor.

13. The chip card as claimed in one of the preceding  
30 claims, characterized in that it comprises other means of authenticating the person, to enhance the security of the authentication process, these means being on the card or using information originating from outside the card.

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14. The chip card as claimed in claim 13,  
characterized in that the additional authentication  
means is a static or scanning-based fingerprint sensor,  
in particular optical.

15. The chip card as claimed in one of the preceding  
claims, characterized in that it comprises at least one  
light-emitting diode controlled by the chip, to provide  
5 visual information relating to the authentication  
operation.